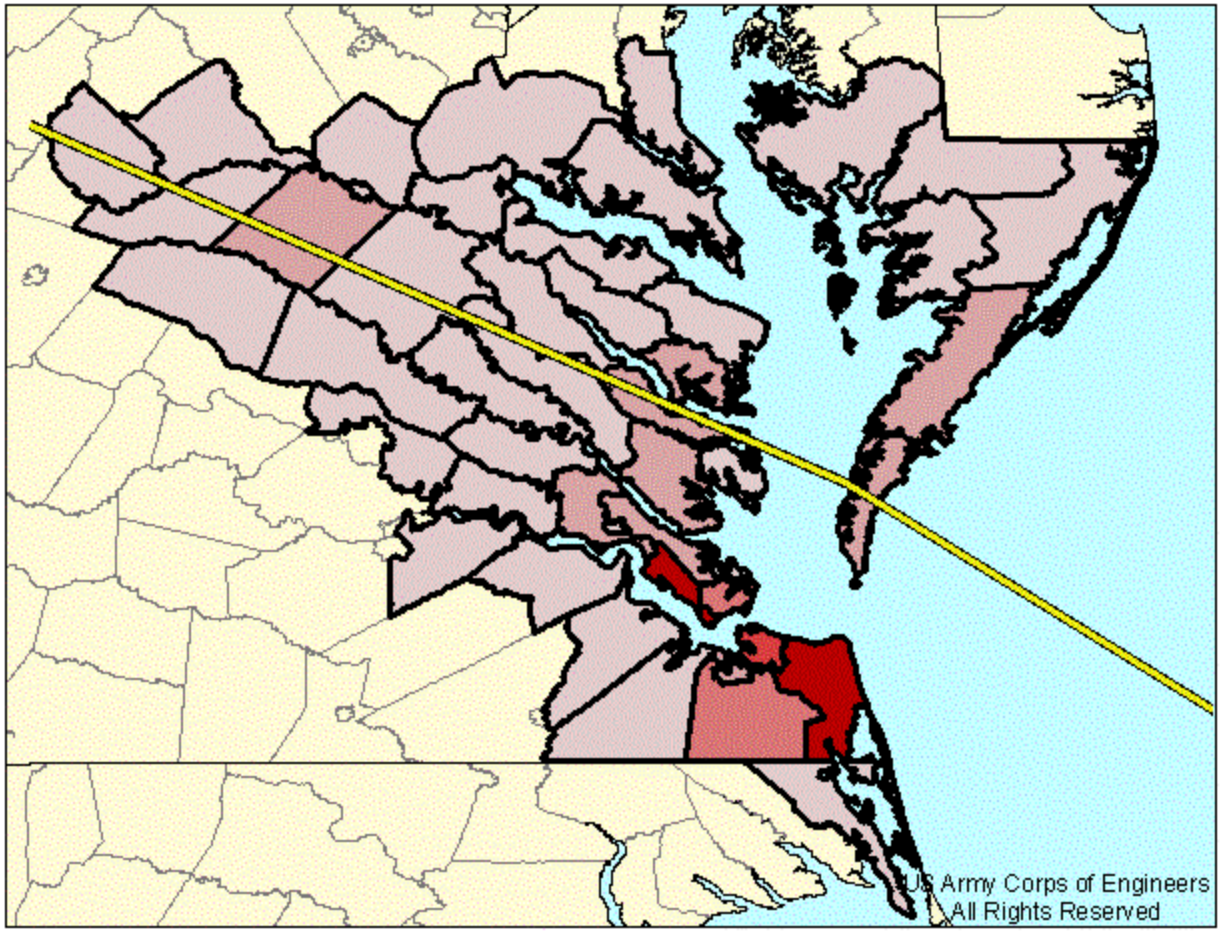
US Army Corps of Engineers

Hurricane Bret 1981 Debris Model

Landfall Expected In About **12** Hours

For Planning Purposes Only!



Post Landfall Debris Model Results

Virginia - 4,865,000 Yards
Maryland - 126,000 Yards
North Carolina - 2,000 Yards

Model results per County on following page

This model is based on a Category 2 storm making landfall near coastal Virginia.

Historic Track

Debris

- < 100,000 cubic yards
- 100,000 - 249,999 cubic yards
- 250,000 - 499,999 cubic yards
- 500,000 - 999,999 cubic yards
- >1,000,000 cubic yards

Information provided on this page displays a Category 2 storm making landfall near coastal Virginia. These projections are based on information from the NHC (1330 EDT 05/12/2008) forecast. The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds, but does not include volume that may be covered by private insurance. Debris volume may include storm surge generated debris.

Details about this model may be obtained at http://www.englink.usace.army.mil
or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Hurricane Bret 1981 Debris Model

Generated By:
Siemsen, LRL 1400 EDT 05/12/2008

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Bret 1981 Debris Model

Landfall Expected In About 12 Hours

For Planning Purposes Only!

State	Yards per State	County	Yards per County
Maryland		Calvert	2,000
		Charles	2,000
		Dorchester	< 1,000
		Somerset	29,000
		St Mary's	81,000
		Wicomico	< 1,000
		Worcester	12,000
Maryland	126,000		
North Carolina		Currituck	2,000
North Carolina	2,000		
Virginia		Accomack	163,000
		Caroline	73,000
		Charles City	9,000
		Chesapeake city	254,000
		Culpeper	8,000
		Essex	55,000
		Fredericksburg city	30,000
		Gloucester	194,000
		Hampton City	388,000
		Hanover	70,000
		Henrico	11,000
		Isle Of Wight	27,000
		James City	157,000
		King And Queen	54,000
		King George	21,000
		King William	38,000
		Lancaster	112,000
		Louisa	6,000
		Madison	< 1,000

State	Yards per State	County	Yards per County
Virginia		Mathews	93,000
(continued)		Middlesex	108,000
		New Kent	31,000
		Newport News city	447,000
		Norfolk City	615,000
		Northampton	111,000
		Northumberland	62,000
		Orange	19,000
		Poquoson City	29,000
		Portsmouth city	154,000
		Prince George	< 1,000
		Richmond	28,000
		Spotsylvania	148,000
		Stafford	40,000
		Suffolk City	27,000
		Surry	10,000
		Virginia Beach city	1,067,000
		Westmoreland	33,000
		Williamsburg city	27,000
		York	146,000
Virginia	4,865,000		

The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds, but does not include volume that may be covered by private insurance. Debris volume may include storm surge generated debris.

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Hurricane Bret 1981 Debris Model

Generated By:
Siemsen, LRL 1400 EDT 05/12/2008

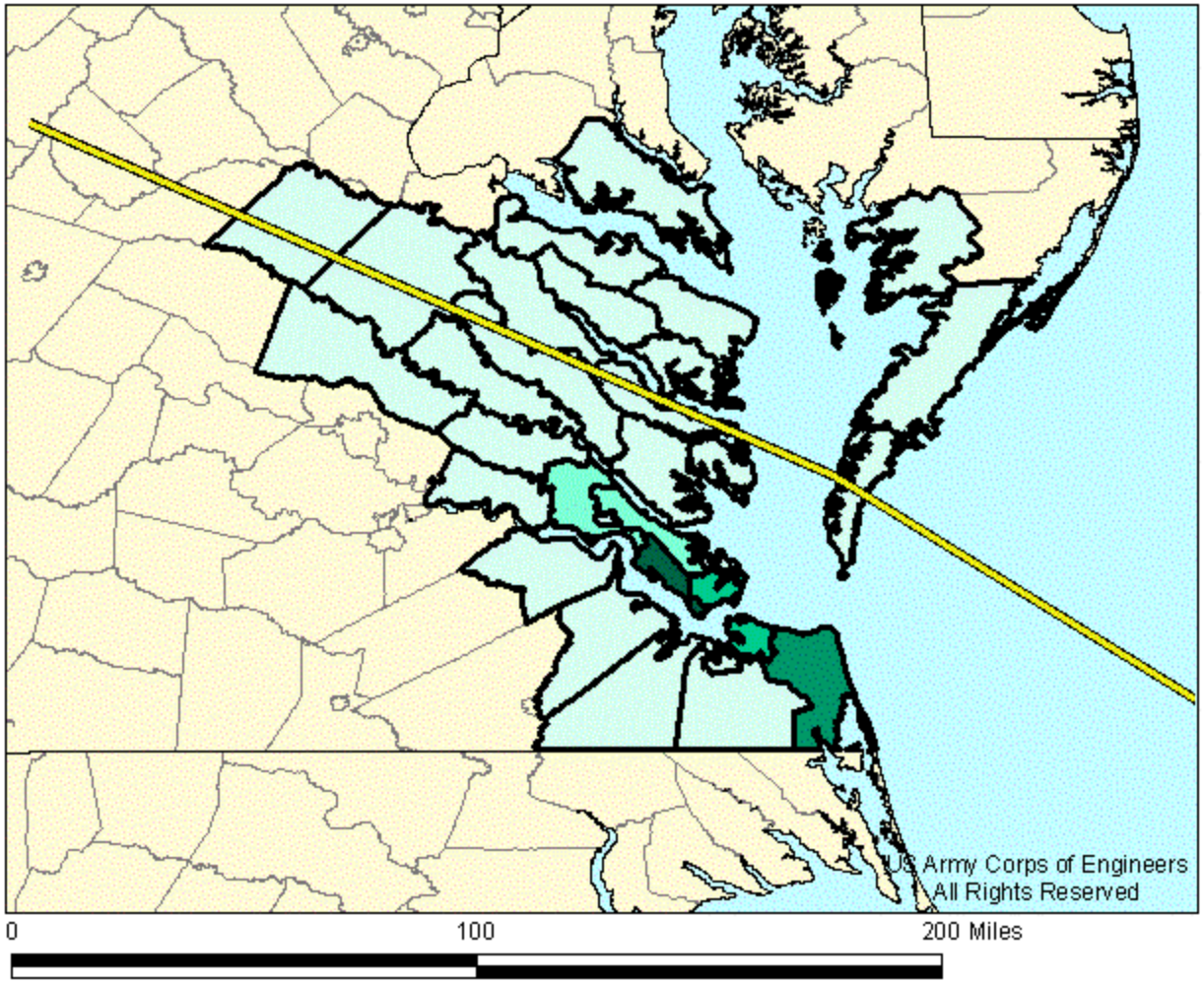
Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Bret 1981 Commodities Model

Landfall Expected In About **12** Hours

For Planning Purposes Only!



Post Landfall Water Model Results

Day One / Day Two / Day Three
VA – 29/58/115 Truckloads
MD – 1/1/2 Truckloads

Model results per County on following page

This model is based on a Category 2 storm making landfall near coastal Virginia.

Historic Track

Commodities

- < 5 Trucks Each
- 5 - 10 Trucks Each
- 11 - 20 Trucks Each
- 21 - 40 Trucks Each
- > 40 Trucks Each

Information provided on this page displays a Category 2 storm making landfall near coastal Virginia. These projections are based on information from the NHC ***(1330 EDT 05/12/2008)*** forecast. The amount of commodities forecasted is based on Mission Guide Book requirements and SME input. The graphic represents single day needs with full distribution system in place and operating.

Details about this model may be obtained at http://www.englink.usace.army.mil
or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Hurricane Bret 1981 Commodities Model	
Generated By: Siemsen, LRL 1400 EDT 05/12/2008	
Sources: HURREVAC LRL-DEBRIS	Page 3 of 12

US Army Corps of Engineers

Hurricane Bret 1981 Commodities Model

Landfall Expected In About 12 Hours

For Planning Purposes Only!

State	Truckloads per State	County	Truckloads per County
Maryland		Somerset	1
		St Mary's	1
Maryland	2		
Virginia		Accomack	3
		Caroline	2
		Charles City	1
		Chesapeake city	1
		Essex	1
		Gloucester	4
		Hampton City	12
		Hanover	1
		Isle Of Wight	1
		James City	5
		King And Queen	1
		King William	2
		Lancaster	1
		Mathews	1
		Middlesex	1
		New Kent	1
		Newport News city	11
		Norfolk City	18
		Northampton	2
		Northumberland	2
		Poquoson City	1
		Portsmouth city	1
		Richmond	1
		Spotsylvania	2
		Suffolk City	1
		Surry	1
		Virginia Beach city	30

State	Truckloads per State	County	Truckloads per County
Virginia		Westmoreland	1
(continued)		Williamsburg city	1
		York	5
Virginia	115		

The amount of commodities forecasted is based on Mission Guide Book requirements and SME input and the above table indicates suggested needs based on phased deployment of a commodities distribution system.

Details about this model may be obtained at http://www.englink.usace.army.mil
or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

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Hurricane Bret 1981 Commodities Model

Generated By:
Siemsen, LRL 1400 EDT 05/12/2008

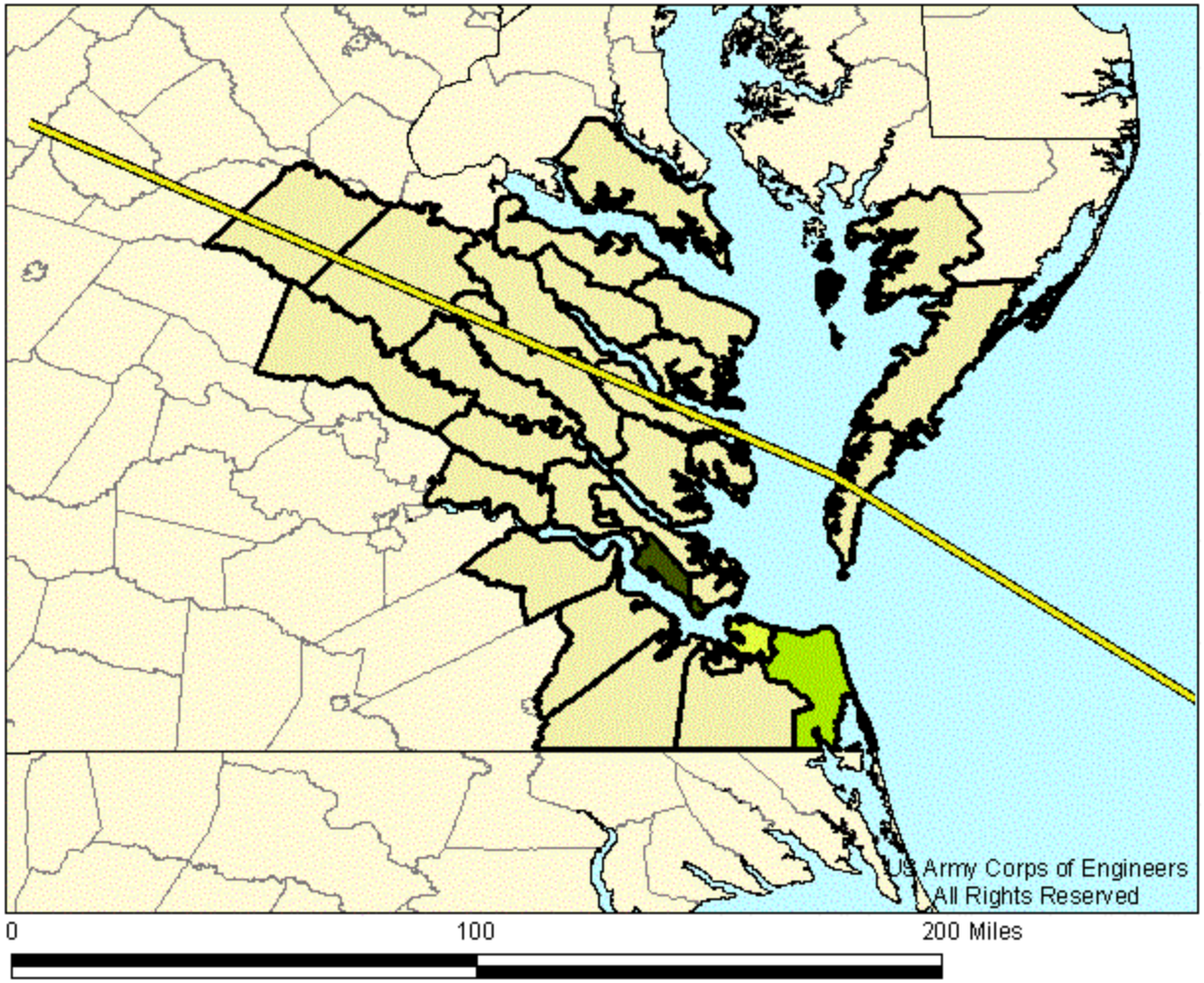
Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Bret 1981 Temporary Roofing Model

Landfall Expected In About 12 Hours

For Planning Purposes Only!



Post Landfall Temporary Roofing Model Results

Virginia - 16,100

Model results per County on following page

This model is based on a Category 2 storm making landfall near coastal Virginia.

Historic Track

Temporary Roofing

- < 2,000 units
- 2,000 - 3,999 units
- 4,000 - 5,999 units
- 6,000 - 9,999 units
- > 10,000 units

Information provided on this page displays a Category 2 storm making landfall near coastal Virginia. These projections are based on information from the NHC (1330 EDT 05/12/2008) forecast. Temporary roofing is based on 3% in CAT 1 and 6% in CAT 2.

Details about this model may be obtained at http://www.englink.usace.army.mil or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Hurricane Bret 1981 Roofing Model

Generated By:
Siemsen, LRL 1400 EDT 05/12/2008

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Bret 1981 Temporary Roofing Model

Landfall Expected In About 12 Hours

For Planning Purposes Only!

State	House Units per State	County	House Units per County
Maryland		Somerset	< 100
		St Mary's	< 100
Maryland			
Virginia		Accomack	600
		Caroline	300
		Charles City	< 100
		Chesapeake city	< 100
		Essex	200
		Gloucester	700
		Hampton City	1,700
		Hanover	< 100
		Isle Of Wight	< 100
		James City	700
		King And Queen	200
		King William	200
		Lancaster	300
		Mathews	300
		Middlesex	300
		New Kent	< 100
		Newport News city	1,800
		Norfolk City	2,500
		Northampton	400
		Northumberland	300
		Poquoson City	200
		Portsmouth city	< 100
		Richmond	200
		Spotsylvania	200
		Suffolk City	< 100
		Surry	< 100
		Virginia Beach city	4,100

State	House Units per State	County	House Units per County
Virginia		Westmoreland	< 100
(continued)		Williamsburg city	200
		York	700
Virginia	161,000		

Temporary roofing is based on 3% in CAT 1 and 6% in CAT 2.

Details about this model may be obtained at http://www.englink.usace.army.mil
or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

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Hurricane Bret 1981 Roofing Model

Generated By:
Siemsen, LRL 1400 EDT 05/12/2008

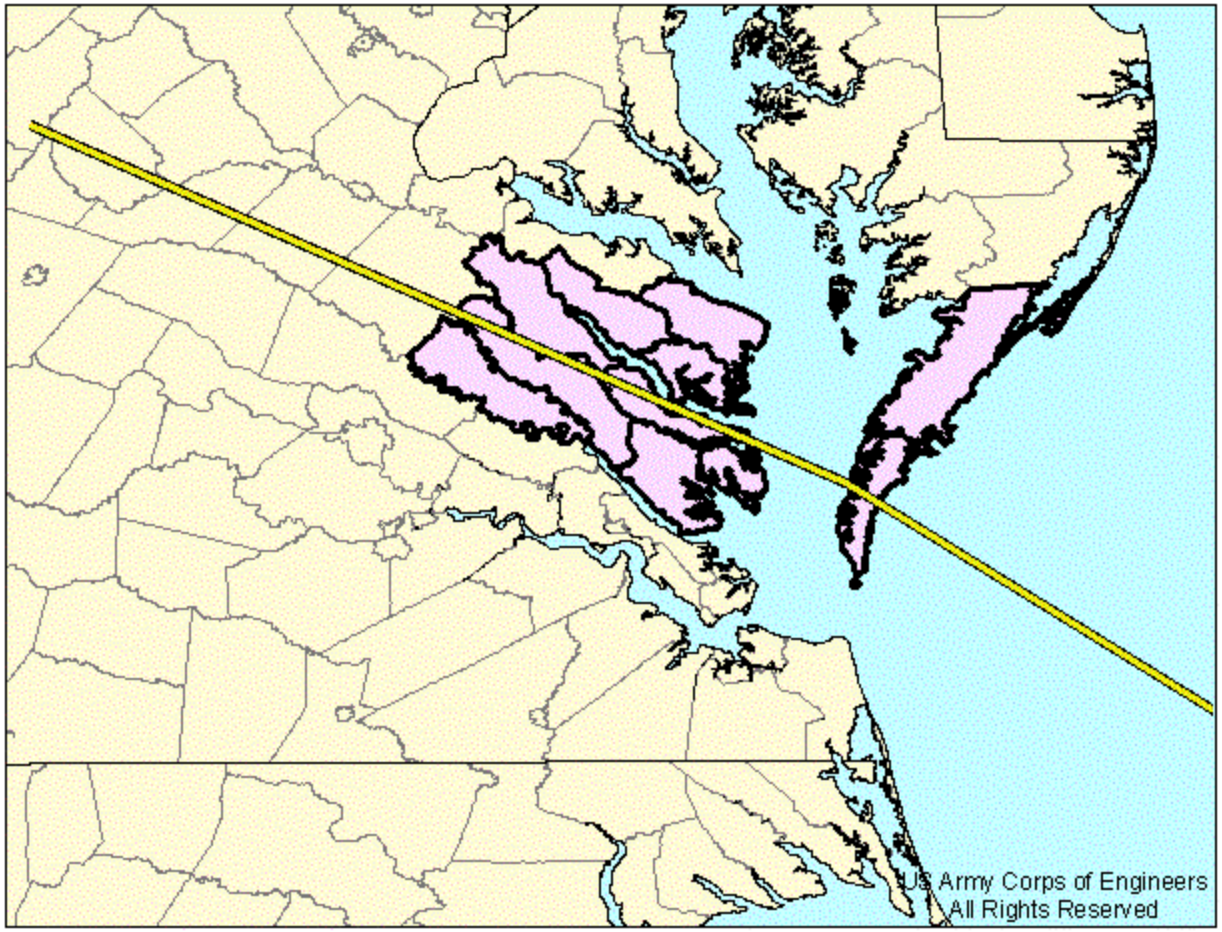
Sources:
HURREVAC
LRL-DEBRIS

Hurricane Bret 1981 Temporary Housing Model

US Army Corps of Engineers

Landfall Expected In About 12 Hours

For Planning Purposes Only!



Post Landfall Temporary Housing Model Results

Model results per County on following page

This model is based on a Category 2 storm making landfall near coastal Virginia.

Historic Track

Temporary Housing

- < 2,000 units
- 2,000 - 3,999 units
- 4,000 - 5,999 units
- 6,000 - 9,999 units
- > 10,000 units

Information provided on this page displays a Category 2 storm making landfall near coastal Virginia. These projections are based on information from the NHC (1330 EDT 05/12/2008) forecast. Temporary housing is based on 1% in CAT 2.

Details about this model may be obtained at http://www.englink.usace.army.mil or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Hurricane Bret 1981 Housing Model	
Generated By: Siemsen, LRL 1400 EDT 05/12/2008	
Sources: HURREVAC LRL-DEBRIS	

US Army Corps of Engineers

Hurricane Bret 1981 Temporary Housing Model

Landfall Expected In About 12 Hours

For Planning Purposes Only!

State	House Units per State	County	House Units per County
Virginia		Accomack	< 100
		Essex	< 100
		Gloucester	< 100
		King And Queen	< 100
		King William	< 100
		Lancaster	< 100
		Mathews	< 100
		Middlesex	< 100
		Northampton	< 100
		Northumberland	< 100
		Richmond	< 100
Virginia			

Temporary housing is based on 1% in CAT 2.

Details about this model may be obtained at http://www.enqlink.usace.army.mil
or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

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Hurricane Bret 1981 Housing Model

Generated By:
Siemsen, LRL 1400 EDT 05/12/2008

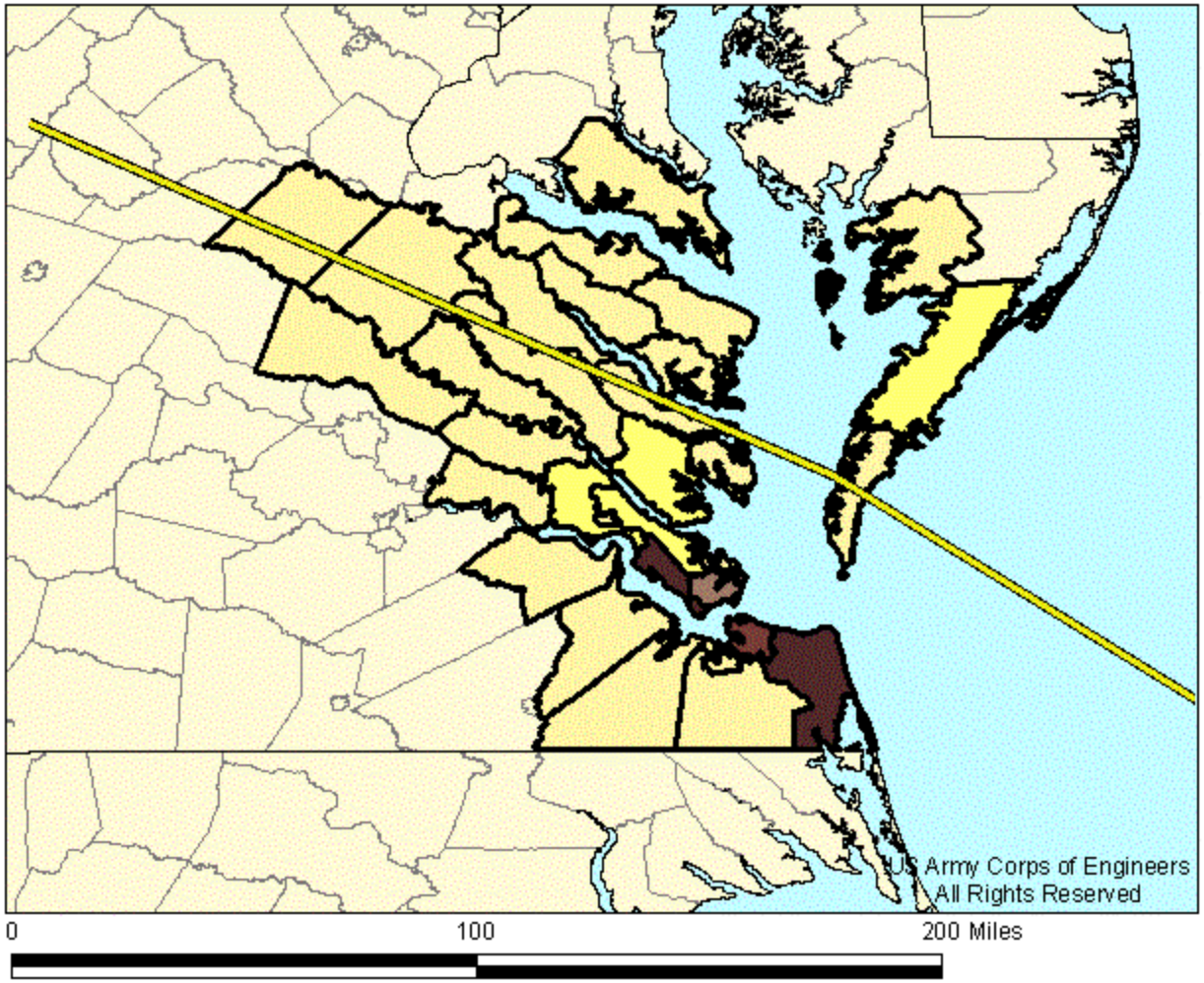
Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Bret 1981 Population Model

Landfall Expected In About **12** Hours

For Planning Purposes Only!



Post Landfall Population Model Results

Virginia - 1,252,000
Maryland - 10,000

Model results per County on following page

This model is based on a Category 2 storm making landfall near coastal Virginia.

Historic Track

Population

- < 25,000 persons
- 25,000 - 99,999 persons
- 100,000 - 174,999 persons
- 175,000 - 249,999 persons
- > 250,000 persons

Information provided on this page displays a Category 2 storm making landfall near coastal Virginia. These projections are based on information from the NHC (1330 EDT 05/12/2008) forecast. The numbers of persons included in this model output are those that would be included within estimated hurricane force winds (Census 2000 values adjusted to July 2006 values).

Details about this model may be obtained at http://www.englink.usace.army.mil or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Hurricane Bret 1981 Population Model

Generated By:
Siemsen, LRL 1400 EDT 05/12/2008

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Bret 1981 Population Model

Landfall Expected In About 12 Hours

For Planning Purposes Only!

State	Population per State	County	Population per County
Maryland		Somerset	7,000
		St Mary's	3,000
Maryland	10,000		
Virginia		Accomack	33,000
		Caroline	19,000
		Charles City	< 1,000
		Chesapeake city	5,000
		Essex	11,000
		Gloucester	39,000
		Hampton City	146,000
		Hanover	< 1,000
		Isle Of Wight	< 1,000
		James City	59,000
		King And Queen	7,000
		King William	13,000
		Lancaster	12,000
		Mathews	10,000
		Middlesex	11,000
		New Kent	8,000
		Newport News city	135,000
		Norfolk City	223,000
		Northampton	14,000
		Northumberland	13,000
		Poquoson City	12,000
		Portsmouth city	10,000
		Richmond	10,000
		Spotsylvania	15,000
		Suffolk City	< 1,000
		Surry	< 1,000
		Virginia Beach city	366,000

State	Population per State	County	Population per County
Virginia		Westmoreland	7,000
(continued)		Williamsburg city	12,000
		York	62,000
Virginia	1,252,000		

The number of persons estimated to be within the hurricane force winds comes from Census 2000 values adjusted to July 2006 values.

Details about this model may be obtained at http://www.englink.usace.army.mil
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Source: US Army Corps of Engineers, All Rights Reserved

Hurricane Bret 1981 Population Model

Generated By:
Siemsen, LRL 1400 EDT 05/12/2008

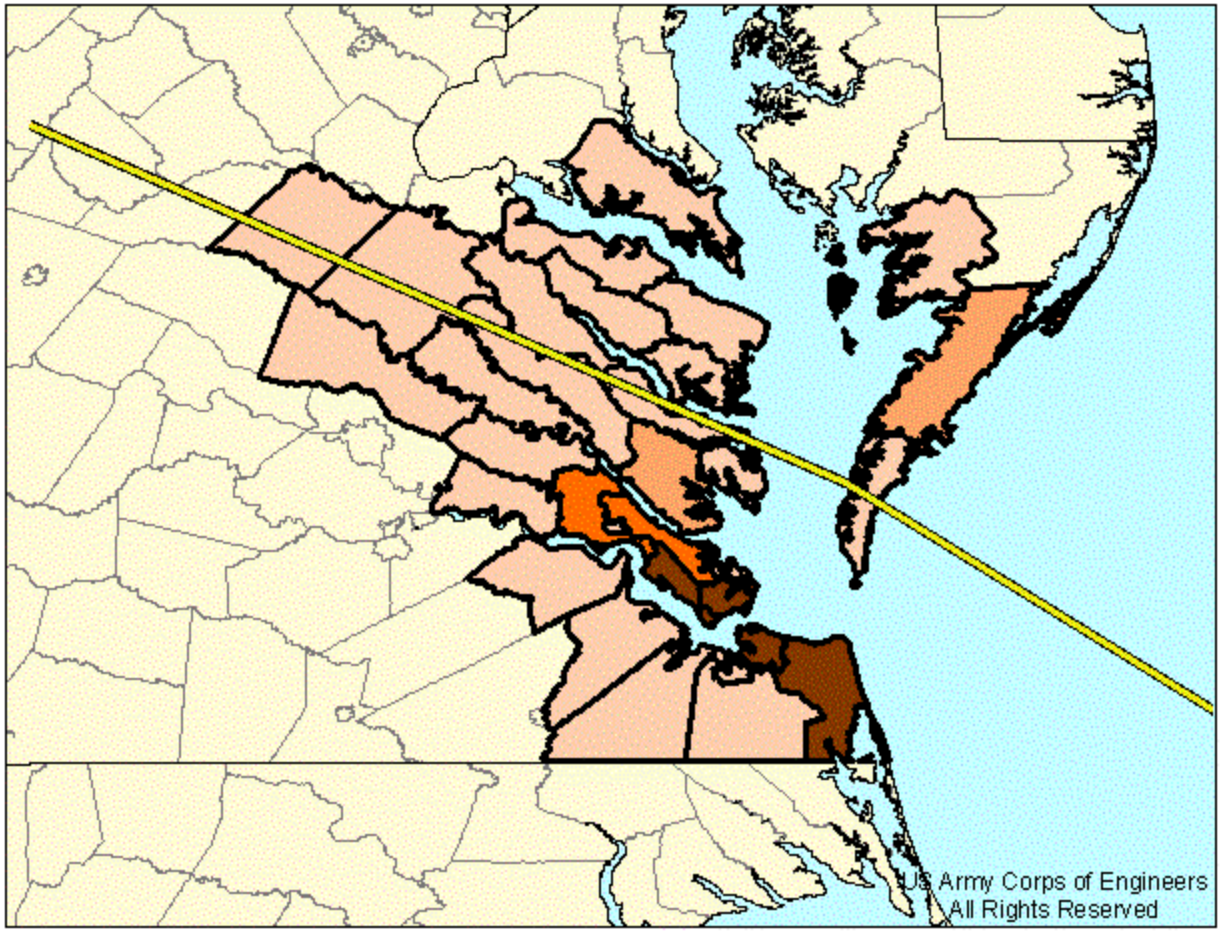
Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Bret 1981 Households Model

Landfall Expected In About **12** Hours

For Planning Purposes Only!



Post Landfall Households Model Results

Virginia - 483,000
Maryland - 3,000

Model results per County on following page

This model is based on a Category 2 storm making landfall near coastal Virginia.

Historic Track

Households

- < 7,500 households
- 7,500 - 14,999 households
- 15,000 - 24,999 households
- 25,000 - 49,999 households
- > 50000 households

Information provided on this page displays a Category 2 storm making landfall near coastal Virginia. These projections are based on information from the NHC (1330 EDT 05/12/2008) forecast. The numbers of households included in this model output are those that would be included within estimated hurricane force winds (Census 2000 values adjusted to July 2006 values).

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Hurricane Bret 1981 Households Model	
Generated By: Siemsen, LRL 1400 EDT 05/12/2008	
Sources: HURREVAC LRL-DEBRIS	Page 11 of 12

US Army Corps of Engineers

Hurricane Bret 1981 Households Model

Landfall Expected In About 12 Hours

For Planning Purposes Only!

State	Households per State	County	Households per County
Maryland		Somerset	3,000
		St Mary's	< 1,000
Maryland	3,000		
Virginia		Accomack	13,000
		Caroline	7,000
		Charles City	< 1,000
		Chesapeake city	2,000
		Essex	5,000
		Gloucester	15,000
		Hampton City	54,000
		Hanover	< 1,000
		Isle Of Wight	< 1,000
		James City	24,000
		King And Queen	3,000
		King William	5,000
		Lancaster	5,000
		Mathews	4,000
		Middlesex	5,000
		New Kent	3,000
		Newport News city	60,000
		Norfolk City	82,000
		Northampton	6,000
		Northumberland	6,000
		Poquoson City	5,000
		Portsmouth city	4,000
		Richmond	4,000
		Spotsylvania	6,000
		Suffolk City	< 1,000
		Surry	< 1,000
		Virginia Beach city	136,000

State	Households per State	County	Households per County
Virginia		Westmoreland	3,000
(continued)		Williamsburg city	4,000
		York	22,000
Virginia	483,000		

The number of households estimated to be within the hurricane force winds comes from Census 2000 values adjusted to July 2006 values.

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or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

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Hurricane Bret 1981 Households Model

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LRL-DEBRIS